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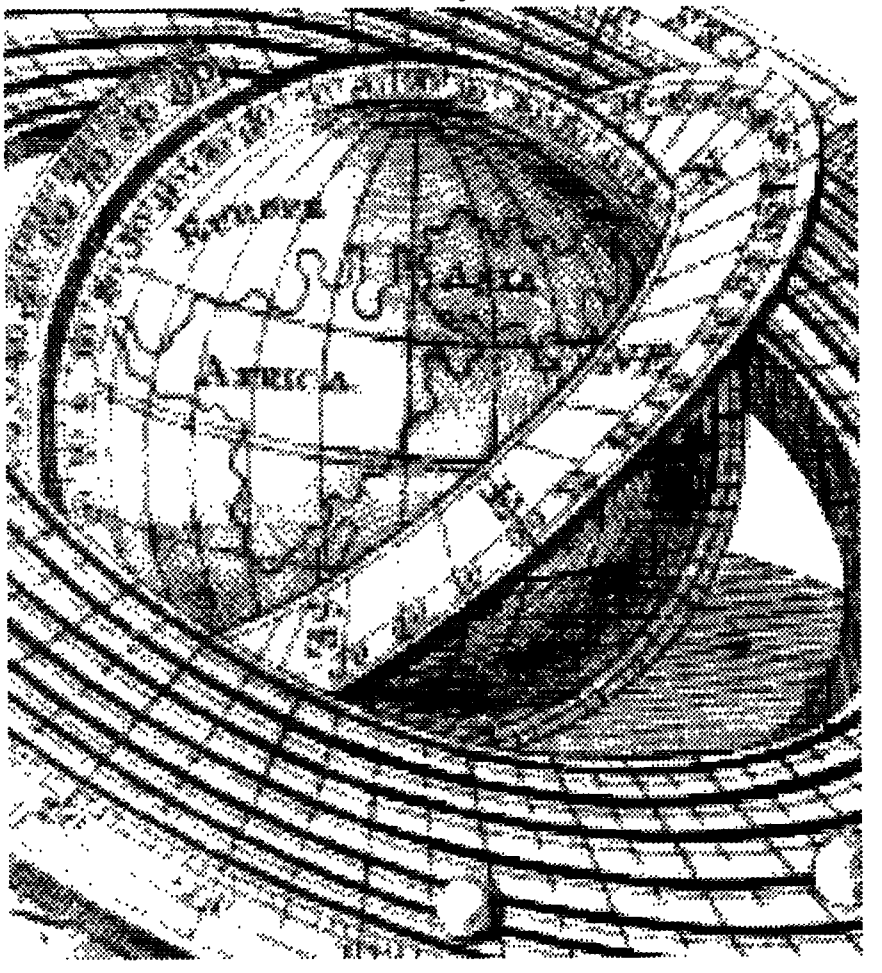
Global Earth Physics

A Handbook of Physical Constants



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CONTENTS

CONTENTS

PREFACE

The purpose of this Handbook is to provide, in highly accessible form, selected critical data for professional and student solid Earth and planetary geophysicists. Coverage of topics and authors were carefully chosen to fulfill these objectives.

These volumes represent the third version of the "Handbook of Physical Constants." Several generations of solid Earth scientists have found these handbooks to be the most frequently used item in their personal library. The first version of this Handbook was edited by F. Birch, J. F. Schairer, and H. Cecil Spicer and published in 1942 by the Geological Society of America (GSA) as Special Paper 36. The second edition, edited by Sydney P. Clark, Jr., was also published by GSA as Memoir 92 in 1966. Since 1966, our scientific knowledge of the Earth and planets has grown enormously, spurred by the discovery and verification of plate tectonics and the systematic exploration of the solar system.

The present revision was initiated, in part, by a 1989 chance remark by Alexandra Navrotsky asking what the Mineral Physics (now Mineral and Rock Physics) Committee of the American Geophysical Union could produce that would be a tangible useful product. At the time I responded, "update the Handbook of Physical Constants." As soon as these words were uttered, I realized that I could edit such a revised Handbook. I thank Raymond Jeanloz for his help with initial suggestions of topics, the AGU's Books Board, especially Ian McGregor, for encouragement and enthusiastic support. Ms. Susan Yamada, my assistant, deserves special thanks for her meticulous stewardship of these volumes. I thank the technical reviewers listed below whose efforts, in all cases, improved the manuscripts.

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